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IMPACTS OF CHANGES IN LAND USE

*A Study of an Urban-Rural Area
of Southeastern Wisconsin*

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
in cooperation with
Wisconsin Agricultural Experiment Station

P R E F A C E

This publication is a result of a study carried on cooperatively by the Farm Economics Research Division, Agricultural Research Service, United States Department of Agriculture, and the Wisconsin Agricultural Experiment Station.

Many persons throughout the country are interested in what takes place when a large influx of people into their communities results from new housing developments or other nonagricultural uses. They are interested in knowing what effect this influx will have upon them as farmers or as residents of a previously rural community. This publication is concerned with an area that has been greatly affected by such influxes. Knowledge of what has happened in this area may be helpful to others in analyzing the problems that might arise in their own localities as rural tracts are developed into residential and other nonagricultural uses.

It is not possible to recognize all those who contributed to the study on which this report is based, but special mention must be made of William L. Nelson, formerly Executive Director of the Waukesha County Park and Planning Commission, who gave the author valuable assistance.

Prepared in
Farm Economics Research Division
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IMPACTS OF CHANGES IN LAND USE

A Study of an Urban-Rural Area of Southeastern Wisconsin

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SUMMARY

In the six southeastern counties of Wisconsin, the amount of land in farms decreased by 4.2 percent from 1950 to 1955, the amount of land in crops by 2.4 percent, and the number of milk cows by 6.6 percent; yet total farm production increased during this period. This increase in farm production during a period of reduction in acreage of land and in number of persons employed in agriculture was largely the result of shifts in crops grown and increased yields from crops and livestock.

Residential development within the six-county area from 1950 to 1955 accounted for only a small proportion of the total decrease in land in farms. From 1950 to 1955, the acreage of farmland decreased by almost 52,000 acres, but less than 6,600 acres were in subdivisions that were recorded during the period. In the six eastern towns in Waukesha County, the acreage of farmland decreased by 12,199 acres in the 5 years. During the same period, only 2,332 acres were in newly recorded subdivisions and only 750 acres were in newly created tracts of less than 20 acres. Only 3,082 acres of the 12,199-acre decrease in farmland can be directly associated with new developments during that period. Part-time farming was seldom used in the transition from agriculture to urban development.

1/ The opinions expressed in this report are those of the author and do not necessarily represent the views of the Agricultural Research Service, U. S. Department of Agriculture, or the Wisconsin Agricultural Experiment Station.

Farmers who remain in an area that is shifting from a predominantly agricultural to some other use face many problems. To many of them, however, these problems are relatively minor; they look to this transition as an aid to their retirement. Also, local farm problems are frequently overshadowed by the community problems that arise during the transitional period and that may continue long after the change is completed. Within the urban-rural area, farm problems are transitional. A change in ownership in an urban-rural area where sprawl is occurring means a change in use. But community problems arise from situations that will remain a long time. Many are not transitional, and forward-looking action now can avoid serious difficulties later.

At present, there is no overall plan of development for the entire area. Development first occurs spasmodically within an area that is predominantly agricultural. This spasmodic development is followed, sometimes with little lapse of time, by sprawling developments. The process is not an orderly one nor does it result in an orderly pattern of land use. One result is that frequently undeveloped lands with no planned future use remain after much of the area has shifted into the new use. Some degree of order is needed for the development that is taken for granted. In Waukesha County, this is being provided to some extent, but even there the county planner's office is under pressure to deal with day-to-day problems and little time is available for consideration of overall planning for the unincorporated areas of the county.

Towns, or the people of the towns, could do much to prevent or alleviate the problems that arise in the transitional period. A zoning ordinance that would provide guidance to development and that would result in an orderly pattern of use could be adopted. A zoning ordinance that would restrict an area to nonresidential uses if the soils were such as to prevent efficient and satisfactory use of septic tanks could be adopted. Central sewage-disposal systems to provide for adequate treatment and disposal of wastes could be constructed. School districts could be consolidated and the tax burden equalized to a greater extent than is now done.

Thought might well be given to the possible use of these tools by agencies with broader jurisdiction than school districts. For example, planning cannot be carried on successfully by a small school district. It might better be carried on by an area that encompasses a group of counties. But in any case, planning that results in a report filed on some reference shelf is of limited value. Greatest values can be obtained when means are provided to put the planning into action.

Five specific lines of action are suggested by the study for consideration:

1. Application of subdivision-control ordinances to any and all division of land.
2. Enlargement of school districts appreciably in order to give them a broader and larger tax base for financing school operations.
3. Use of an "original occupancy" permit and tax to provide additional operating funds to school districts.
4. Making studies to determine the need for central sewage-disposal systems and, in areas in which such systems are required, restricting residential developments until an adequate system is in operation.
5. Examination of the local governmental structure to determine what type of governmental units within our democratic framework are best suited to an urban-rural area.

The basic question that exists is, "What pattern of future development will the people of the region want some 10 or more years from now?" What occurs today tends to set the type of pattern for the future. Therefore, what is done today is important.

INTRODUCTION

If one were to drive through "rural" areas in southeastern Wisconsin, he would have no doubt that changes in land use were occurring. He would see new roads; new, extensive, one-story manufacturing plants with acres of cars on the parking lots; surveyors' stakes indicating street layouts in new subdivisions; school buildings under construction to provide more classroom space; multicolored signs indicating the glories of newly opened subdivisions; and many houses recently completed or under construction.

In many instances, signs that much of the land had been recently farmed remain - the old barn, the large farmhouse that someone is restoring, the characteristic foundation of the old silo, and the corn stubble still in the new subdivision. Usually, some farms are in operation. All the signs point to the fact that land is moving out of agriculture into residential, commercial, industrial, and associated uses.

The Problem and the Procedure Followed

The unexpected increase in population during the last decade or more and the movement of people to new urbanized areas around cities have caused considerable concern. To many, the changes that were occurring were conflicting - the Nation was increasing its demand for food because of the increasing population; at the same time, it was reducing its agricultural base by converting farmland to other uses.

Along with the conviction of conflicting developments was the view that in areas in which land was shifting into residential uses, problems were arising for the farmers who remained. One problem frequently cited was that of higher taxes. It was argued that the increased population resulted in higher school costs and that part of these additional costs were passed on in the form of taxes to the farmers.

The study reported here had three basic purposes: (1) To determine the effects of urbanization on agricultural production in southeastern Wisconsin; (2) to examine present and emerging problems in the urban-rural fringe; and (3) to determine what tools communities can use to alleviate the problems. As the study progressed, emphasis shifted from agricultural to community problems. It was recognized that many of the so-called agricultural problems were transitional while many community problems tended to remain.

During the course of the study, various sources of information were drawn upon. Data available from public agencies or public records were used whenever possible. Data were also obtained by interviewing farmers in four selected school districts. In addition, many persons with various interests in problems of the urban-rural area studied were interviewed.

The study reported is concerned with the urban-rural area of seven counties of southeastern Wisconsin. The city of Milwaukee represents the principal trade and employment center of the area. Some references are made to Milwaukee County, although to a large extent it was excluded from the study, chiefly because farming has almost ceased there.

Milwaukee, with a population of 637,392 in 1950, is by far the largest city. In 1950, Milwaukee County also contained four other cities and six incorporated villages. Of these 10 satellite areas, 6 had populations of 10,000 or more. The largest was Wauwatosa with 33,324. Outside Milwaukee County, the three largest cities were Racine with a 1950 population of 71,193, Kenosha with 54,368, and Waukesha with 21,233. In 1950, there were 47 other cities or incorporated villages. Three of these cities had populations ranging from 5,000 to 10,000, while 44 had populations of less than 5,000.

The study was limited largely to territory within legally constituted towns ^{2/} in Ozaukee, Kenosha, Racine, Walworth, Washington, and Waukesha Counties (fig. 1). Data relating to incorporated villages or cities are not included except when they provide a better understanding of the changes that are occurring. Much of the analysis is limited to data related to Waukesha County, where the most rapid changes are occurring.

For the area as a whole, three hypotheses were tested:

1. That land was shifting from agricultural to a nonagricultural use at a faster rate near metropolitan areas than in areas further removed;
2. That the proportion of farmland in hay tended to increase as the urbanization process spread;
3. That the intensity of land use on farms that remained in operation increased as nonagricultural uses moved into the area.

For the first hypothesis, the area of study was divided into three subareas, more or less on the basis of distance from Milwaukee County and from the cities of Racine and Kenosha. These subareas were outlined by legal boundaries of towns, as data were available on a town basis only. The analysis failed to reveal any way in which the changes in agriculture could be related to distance from Milwaukee. As a result, these subareas were not considered further in the study.

Changes in agricultural production were considered in two ways. Yields and production in Waukesha County were compared for two different periods. In addition, changes in total production for the entire area were examined.

Data on agriculture were obtained for 1931, 1940, 1950, and 1955. In general, changes prior to 1950 were gradual. The period from 1950 to 1955 was one of many marked changes. Because of this, most of the data used in the analysis are limited to 1950 and 1955.

To estimate the extent to which land has shifted from agricultural to residential uses, analyses were made of plats filed in the six southeastern counties from 1931 to 1955. Changes in small tracts were analyzed also in a limited area.

^{2/} In Wisconsin, the term "town" refers to the rural unincorporated town government unit.

A fourth hypothesis tested in selected areas was that residential development created additional problems or intensified existing problems for the farmers who continued to operate in a transitional area. Farmers in four selected school districts were interviewed in an effort to learn what problems they faced. The four school districts were selected primarily as case studies, as they represented different situations. One was a district in which farming had virtually ceased. At the other extreme was a district that had not been directly affected by urbanization. The other two districts, both of which contained considerable farming, represented a situation between these two extremes. In one, there is a prewar subdivision; in the other, the subdivisions were developed after World War II.

CHANGES IN FARMING

Changes in farming were measured in several different ways to provide an understanding of what is taking place. For example, both the number of farms and the amount of land in farms have decreased since 1931, but the average size of farm was larger in 1955 than in 1931. Farmland was used more intensively in 1955 than in the earlier year.

Number of Farms

In 1931, 12,417 farms ^{3/} were reported in the six southeastern counties of Wisconsin (table 1). In 1940, the number was about the same, but during the next decade, there was a decrease of 14 percent. Difficulties in obtaining labor and attractive employment opportunities in defense plants during World War II encouraged some operators to shift out of farming. In these 10 years, farms increased greatly in average size. Gasoline rationing, restriction on construction, and other war-created restrictions discouraged the subdividing of lands for residential purposes.

From 1950 to 1955, the number of farms decreased by an additional 9 percent. If the decrease continues at the same rate until 1960, the number of farms will decrease at a faster rate from 1950 to 1960 than in the previous decade.

^{3/} Data obtained from the Federal-State Cooperative Crop and Livestock Reporting Service compare closely with those reported by the U. S. Censuses of Agriculture for farms of 20 acres or more. To a large extent, farms reported by the Federal censuses as residential part-time farms are not included in these statistics on changes within agriculture.

Table 1. - Number of farms in towns, by counties, southeastern Wisconsin, selected years, 1931-55 ^{1/}

County	1931	1940	1950	1955
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>
Kenosha	1,177	1,185	994	967
Ozaukee	1,539	1,469	1,171	1,064
Racine	1,862	1,797	1,461	1,455
Walworth	2,334	2,301	2,018	1,875
Washington	2,545	2,516	2,311	2,136
Waukesha	2,960	2,889	2,477	2,021
Total	12,417	12,157	10,432	9,518

^{1/} Computed from data furnished by Wisconsin State Department of Agriculture, Crop and Livestock Reporting Service.

From 1931 to 1940, the number of farms in the six counties and the number in the State as a whole, changed very little. From 1940 to 1950, the number of farms in the State decreased by 11 percent as compared with a 14-percent decrease in the six counties. During the next 5 years, the decreases were 7 and 9 percent, respectively. That is, the reductions from 1940 to 1955 were greater in the main urban-rural area of the State. In 1931, 7.1 percent of the farms in the State were in the six southeastern counties; in 1955, only 6.5 percent were in this area.

This downward trend in number of farms is not likely to change in the near future. Continued subdivision activities, commercial developments, and improvements in roads will reduce the number of farms even further. In addition, the number will be reduced to some extent by consolidation of farm units and the greater opportunities for off-farm employment.

During the 1950-55 period, the greatest decrease in number of farms was in Waukesha County, which had an 18-percent loss. If this rate continues for another 5 years, the number of farms in Waukesha County will be reduced by a third during the decade. It is in this country that the largest amount of subdividing is occurring.

In three towns, the number of farms decreased by more than 25 percent from 1950 to 1955. Two of the towns are adjacent to Milwaukee County - Brookfield ^{4/} with a decrease of 80 percent in 5 years and New Berlin with a decrease of 29 percent. The third town, Pleasant Prairie, with a decrease of 39 percent, lies south and southwest of Kenosha.

Towns with decreases in number of farms of 15 to 25 percent are not concentrated near Milwaukee County as was expected; instead, they are scattered throughout the area.

Although for the area as a whole, the number of farms decreased by 9 percent from 1950 to 1955, numbers increased in 15 towns. The greatest increase was in the town of Somers, which had a gain of 31 percent.

The number of farms in the adjacent town of Pleasant Prairie decreased by 39 percent. However, if these two towns are compared for the years from 1940 to 1955, the number of farms in both decreased, in Pleasant Prairie by 46 percent and in Somers by 33 percent. Similar contrasts are to be found in the towns of Linn and Walworth. In Walworth, consolidation was responsible for part of the decline in number of farms. The amount of land in farms decreased by less than 5 percent and the average size of farm increased from 139.9 to 161.0 acres.

Changes in number of farms follow no clear-cut pattern. Both increases and decreases in numbers have been reported in towns adjacent to urban areas, as well as in towns a considerable distance from such areas. These changes in the area studied cannot be associated with distance from Milwaukee or distances from other urban areas.

Land in Farms

In 1955, the six counties had 1,186,000 acres of land in farms (table 2), or 6 percent less than the acreage in 1931. For the State as a whole, the amount of land in farms increased by 3.6 percent during this period.

In 1955, 77.5 percent of the total land area in the six counties was in farms. Only 67.9 percent of Waukesha County was in farms in 1955 as compared with 76.1 percent in 1950. For the State as a whole, less than 60 percent of all land was in farms in 1955. Continuation of the urbanization process in the southeastern counties will depend to a large extent upon the shifting of land away from agricultural uses.

^{4/} Unless specifically indicated otherwise, reference to the town of Brookfield is to the town as it existed prior to 1955. This area includes a full survey township.

Table 2. - Land in farms in towns, by counties, southeastern Wisconsin, for selected years, 1931-55, and percentage of land in farms in 1955

County	Acreages of land in farms				Percentage
	1931	1940	1950	1955	of land in farms, 1955 <u>1/</u>
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Percent</u>
Kenosha	135,959	141,652	132,591	130,592	74.7
Ozaukee	127,893	130,187	124,360	119,556	79.5
Racine	170,700	172,937	165,646	164,164	76.1
Walworth	298,146	309,826	298,955	295,601	82.5
Washington	243,321	247,809	245,855	234,538	85.6
Waukesha	285,695	291,650	270,584	241,712	67.9
Total	1,261,714	1,294,061	1,237,991	1,186,163	77.5

1/ Based on the total land area as reported in the 1954 Census of Agriculture.

Computed from data furnished by the Wisconsin State Department of Agriculture, Crop and Livestock Reporting Service.

The changes in acreage of land in farms indicate that from 1931 to 1940 urbanization had no adverse effect on the amount of land in farms, but that possibly adverse effects were beginning to appear during the next decade. From 1940 to 1950, the amount of land in farms decreased by 56,070 acres, but urbanization had little direct effect on agriculture during the decade of the 1940's. During the first half of that decade, less than 1,000 acres were subdivided. In the last half, after wartime restrictions were removed, about 3,500 acres were in newly recorded subdivisions.

In the 1950-55 period, the acreage of land in farms decreased by 51,828 acres. The estimated acreage in subdivisions recorded during this period amounted to 7,401 acres. Land that was no longer farmed but did not go into recorded subdivisions during the period amounted to 44,427 acres.

Again, in various adjacent towns, contrasts are emphasized. For example, land in farms increased by 13 percent in Somers but decreased by 36 percent in Pleasant Prairie. Pewaukee had 5 percent more land in farms in 1955 than in 1950, but each of the eight towns bordering on Pewaukee had less land. Contrasts appear throughout the area, and no specific pattern of change can be recognized or explained readily.

Size of Farms

In 1955, there were fewer farms and less land in farms than in 1931, but the average size of farm increased during the period (table 3). The increase in size came about because of the discontinuance of farming on many of the smaller farms and consolidation of some tracts into larger units.

The average size of farm decreased in 18 but increased in 48 towns. Again, there appeared to have been no specific pattern, although there are certain concentrations. The average size increased in all towns in Ozaukee County and in all except one town in Kenosha County. At the other extreme, there were decreases in five of the nine towns in Racine County.

Changes in Crops, Livestock, and Production

The major crops raised in the area can be divided into four groups - corn, small grains, truck crops, and hay. These four groups accounted for 98.2 percent of all the crop acreage reported in 1955. The acreages devoted to these crops are shown in table 4. Acreages of corn and truck crops increased each year. The 1955 acreage of corn was 28.4 percent greater than it was in 1931 and that of truck crops was 14.6 percent greater (table 4). The greatest change occurred in the 5 years from 1950 to 1955.

A hypothesis suggested at the beginning of this report was that the percentage of farmland in hay tended to increase as the urbanization process spread. From 1950 to 1955, the percentage of land in hay increased in 4 towns that bordered on Milwaukee County and in 18 other towns as well. But the percentage of land in hay decreased in 8 towns bordering on Milwaukee County and the cities of Racine and Kenosha and in 26 other towns as well. Except for the town of Mequon, the percentage of farmland in hay did not increase greatly in the towns that have a number of new subdivisions.

No specific pattern of crops can be associated with distance from urban centers. When the composite picture formed by all crops is considered, there appears to be some relationship. In a concentration of towns in Waukesha County, the acreage of all crops decreased by at least 10 percent from 1950 to 1955. But at the other extreme, seven towns in the area had increases of 10 percent or more. Increases in crops are occurring both near and far from urban centers, but towns with a 10 percent or more decrease in acreages of reported crops are concentrated largely near urban centers.

Another hypothesis considered was that intensity of land use on lands that remained in operating farms increased as nonagricultural uses moved

Table 3. - Average size of farms in towns, by counties, southeastern Wisconsin, selected years, 1931-55

County	1931	1940	1950	1955
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
Kenosha	116	120	133	135
Ozaukee	83	89	106	112
Racine	92	96	113	113
Walworth	128	135	148	158
Washington	96	98	106	110
Waukesha	97	101	109	120

Computed from data furnished by the Wisconsin State Department of Agriculture, Crop and Livestock Reporting Service.

Table 4. - Acreages of selected crops, 6 southeastern Wisconsin counties, selected years, 1931-55

Crop	1931	1940	1950	1955	Percentage change 1931-55
	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Percent</u>
Corn	201,463	215,298	224,716	258,657	28.4
Small grains . . .	263,153	263,618	266,322	218,895	-16.8
Truck crops . . .	22,655	22,971	23,967	25,968	14.6
Hay	230,289	241,454	242,490	230,767	.1
All crops . . .	741,032	780,729	766,339	747,985	.9

Computed from data furnished by the Wisconsin State Department of Agriculture, Crop and Livestock Reporting Service.

into the area. One indication of intensity of use is the percentage of farmland in crops. In 17 towns, the percentage of farmland in crops was about the same in both 1955 and 1950. These towns are dispersed over the six-county area.

At the same time, in nine towns the percentage of farmland in crops in 1955 was greater by 5 or more percentage points than it was in 1950. These towns include Mount Pleasant, West Bend, and Mequon, which are relatively near large concentrations of population, and Richfield, Germantown, and La Grange, which are more rural. In only six towns was the percentage of cropland in farms less in 1955 than in 1950.

Changes that have occurred over the entire area give some support to the tentative hypothesis. In 1931, 58.7 percent of the land in farms was planted to some crop. This percentage has increased slightly each year as shown below:

1931	58.7 percent
1940	60.3 percent
1950	61.9 percent
1955	63.1 percent

This trend, along with the fact that the acreage of land in corn has increased, the acreage in hay has remained fairly constant, and the acreage in small grains has decreased, shows greater intensification of land use for the entire area. But this intensification could not be related to distance from urban centers. Neither could it be associated solely or directly with the urbanization process. For example, new technologies, including improved equipment, better seeds, and improved methods might be as responsible for the intensification as pressures from nonagricultural uses. Or they might be even more responsible. This intensification has occurred at the same time as adoption by farmers of many technological advances.

Dairying is the chief farm enterprise in the area, although from 1940 to 1955, the number of cows declined by 9 percent. The number of milk cows remained almost constant in Walworth and Washington Counties, while in the other counties the number decreased (table 5). The decrease in Waukesha County was concentrated largely in the six eastern towns, where urbanization was progressing rapidly.

In the six-county area, the number of farms decreased from 1940 to 1955; there was less land in farms; the average size of farms was larger; acreages of various crops were changing - to more acres of corn and fewer acres of small grains - and a larger percentage of the farmland was in crops. In examining the data, no pattern followed by these changes could be visualized.

Table 5. - Number of milk cows on farms in towns, by counties, southeastern Wisconsin, selected years, 1940-55

County	1940	1950	1955
	<u>Number</u>	<u>Number</u>	<u>Number</u>
Kenosha	15,707	14,390	13,612
Ozaukee	16,571	15,476	14,094
Racine	19,408	17,370	15,856
Walworth	38,359	38,582	38,374
Washington	28,994	29,941	29,855
Waukesha	37,255	37,036	30,945
Total	156,294	152,795	142,736

Computed from data furnished by the Wisconsin State Department of Agriculture, Crop and Livestock Reporting Service.

The effect of these changes on total production can be measured by taking the value of all farm products sold and comparing these values after adjustments were made for changes in the price level. On this basis, the value of all production in the six counties in 1954 was 101.1 percent of the value in 1949. This is only one indication of the increase in production. That production has increased is verified also by production data of a few important farm products. The amount of milk sold increased by 2 percent from 1949 to 1954, even though the number of milk cows decreased by 6.6 percent. The number of eggs sold decreased by 3 percent but the number of chickens sold increased by 10 percent. Increased yields and shifts in crop acreages were responsible for maintaining total production at a high level at a time when acreage in farms and numbers of livestock were being reduced.

GROWTH OF NONAGRICULTURAL USES

In this area, there is a definite movement of land out of farming. The peak in amount of land in farms for the six counties was reached in 1940 with 1,294,000 acres. During the decade that followed, there was a loss of more than 56,000 acres. In the next 5 years, there was a decline of almost 52,000 acres, or 92 percent of the loss of the previous 10-year period. When land shifts from farming to other uses, what are these uses?

Changes in Composition of Population

One indicator of change is the composition of the population. From 1940 to 1950, the rural farm population decreased by 16.7 percent while the rural nonfarm population increased by 84.4 percent (table 6). The urban population increased by 14.4 percent in the six southeastern counties, but in places that had populations of 10,000 or more in 1950, the increase was only 8.6 percent (table 7). The rate of increase was much greater in the incorporated areas of less than 10,000, but in no instance was it as large as the increase reported for the unincorporated areas.

From 1940 to 1950, the population increased by 75 percent or more in four towns - Brookfield and New Berlin in Waukesha County, East Troy in Walworth County, and Burlington in Racine County. The first two increases might have been expected because of the relatively easy access to Milwaukee. The increases in the other two towns are more difficult to explain, as adjacent towns had either no increase or relatively small increases.

Incorporated Areas

Changes in boundaries of incorporated areas do not necessarily mean a shift from agricultural to nonagricultural use at the time the changes occur. In some instances, the shift in use was made previously, and in others, annexation of territory to an incorporated area was made in anticipation of a shift in use. Frequently, the only change other than that in its municipality status has been that of its classification - from rural to urban - a change that is purely arbitrary.

The city of Brookfield in Waukesha County was incorporated in 1955 from a large part of the town of Brookfield, and annexations to the city have been made since. A smaller area from the town was incorporated as the village of Elm Grove, and in 1957, a move was initiated to annex what remained of the town to the city of Waukesha. The town of Mequon became the city of Mequon in 1957. The villages of Wind Point and North Bay have been created. In 1956 and 1957, the people of the towns of Menomonee, Pewaukee, Delafield, Caledonia, and possibly other communities were considering the pros and cons of incorporation. The shift from the rural form of town government to the village or city form has been strong. At times, the shift has been due to negative action - the desire to prevent annexation to an area already incorporated. What is to be gained by incorporating as a separate small entity instead of joining an existing entity was not determined, as it was outside the scope of this project. It is recognized that the town form of government is not too suitable for an urban-rural area; it is doubtful whether multicity and multivillage units can serve adequately the needs of the people in such an area.

Table 6. - Changes in urban, rural nonfarm, and rural farm population, southeastern Wisconsin, 1940 and 1950 1/

Population classification <u>2/</u>	1940	1950	Percentage change
	<u>Number</u>	<u>Number</u>	<u>Percent</u>
Urban.....	167,957	192,225	14.4
Rural nonfarm.....	65,948	121,603	84.4
Rural farm.....	66,909	55,743	-16.7
Total.....	300,814	369,571	22.9

1/ This includes data for the 6 southeastern counties excluding Milwaukee County.

2/ The old census definitions are used in order to be able to compare the data for the 2 years.

Computed from data in the 1950 Census of Population, vol. 2, pt. 49.

Table 7. - Percentage change in population, by size of incorporated areas and towns, Milwaukee County and six southeastern Wisconsin counties, 1940-50

Area <u>1/</u>	Milwaukee County	Southeastern counties
	<u>Percent</u>	<u>Percent</u>
Cities of 10,000 persons or more:		
Milwaukee.....	8.5	---
Other.....	19.4	8.6
Other incorporated areas:		
5,000 to 9,999 persons.....	8.4	26.2
2,500 to 4,999 persons.....	44.0	18.3
Under 2,500 persons.....	4.8	34.5
Unincorporated towns.....	51.5	39.1
Average.....	13.6	22.9

1/ The incorporated areas are classified by the population of the area reported in the 1950 census. The old definitions are used to have the data for the 2 years comparable.

Computed from data in the 1950 Census of Population, vol. 2, pt. 49.

In addition to the creation of new villages and cities, existing incorporated areas were acquiring additional territory by the annexation process. These annexations involved relatively little farmland and relatively few farms.

Recorded Subdivisions

Between 1931 and 1935, 17 subdivisions were recorded in the rural areas of the six counties included in the study reported. In these 17 subdivisions, 629 lots were platted on 412 acres. Although there was considerable activity during the next 10 years, the pace of activity increased greatly after 1945. In 1946-50, almost a third of the acreage subdivided was in Waukesha County, but for the 1951-55 period, more than 58 percent of the land subdivided was in this county (figs. 2, 3, 4). The latter percentage does not include lands in the city of Brookfield and the village of Elm Grove after these areas were incorporated.

Since 1931, more than 13,000 lots have been created in recorded subdivisions, but not all the land was in agricultural use immediately prior to subdivision. The information obtained indicates that much of the land subdivided in Kenosha County was in a rural, nonagricultural use at the time it was subdivided. But much of the land subdivided in Waukesha County had been farmed either by the person who subdivided it or by the previous owner immediately prior to platting.

About 1.5 lots per acre were created on the average in the 1951-55 period as compared with 1.9 lots per acre during the previous 15-year period. Although this would indicate that the average lot size was probably larger than one-half acre, in some plats filed in 1951-55, the average size of lot was estimated to be less than 10,000 square feet. In two subdivisions in Kenosha County, for example, the average size was less than 7,500 square feet and in eight, the average size was between 7,500 and 10,000 square feet. These 10 subdivisions included 778 lots, or 43 percent of all lots recorded in the county in that period. In the other counties, there were six subdivisions, with a total of only 193 lots, which averaged less than 10,000 square feet. This is in contrast to the 1931-40 period, when in 23 subdivisions, there were 2,072 lots, which averaged less than 10,000 square feet.

Except for Kenosha County, lots have increased in size. Possibly this change was primarily an attempt to reduce the possibility of creating unhealthy conditions, which could arise from the inadequacies of individual sewage disposal systems in closely built-up areas.

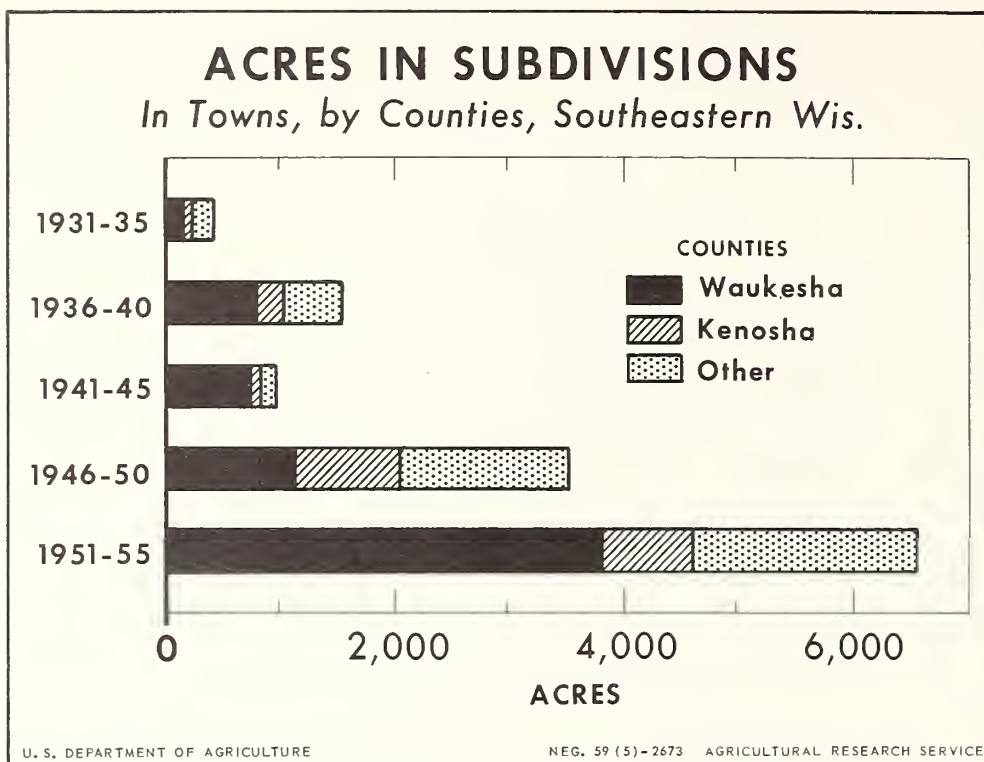


Figure 2

From 1951 to 1955, 10,086 lots were platted. If these lots had been built upon and if the pattern of occupancy had been similar to that reported in the 1950 census, the population in these towns would have been increased by 24,000, or 16 percent over that reported in the 1950 census. ^{5/}

Activity in Waukesha County. - The largest amount of subdividing in the six counties was in Waukesha County (table 8), and within that county, activity was centered in the four eastern towns of Brookfield, New Berlin, Muskego, and Menomonee and the two adjacent central towns of Waukesha and Pewaukee. These six towns had 118 of the 131 subdivisions in Waukesha County and 5,316 of the 5,649 lots created between 1951 and 1955. In the earlier years, activity also centered in these six towns. If the 5,316 lots had been built upon and occupied according to average occupancy, the population in the six towns would have been increased by 13,000, or 45 percent over that reported in 1950.

Activity in the town of Brookfield was examined in detail. Subdivisions that had been platted and filed since 1931 are shown in figure 5. Subdivisions that were listed on the 1931 tax rolls are mainly in the southeastern part of

^{5/} Based on an estimated 3.3 persons per occupied rural nonfarm residence and 72.9 percent occupancy of new houses built.

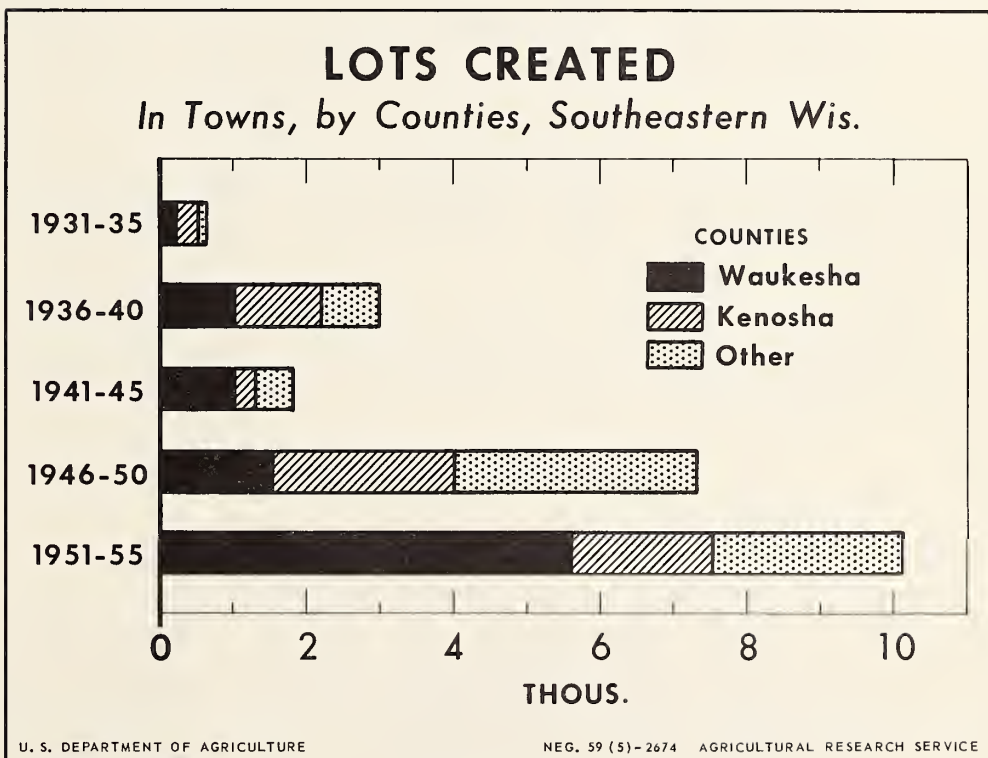
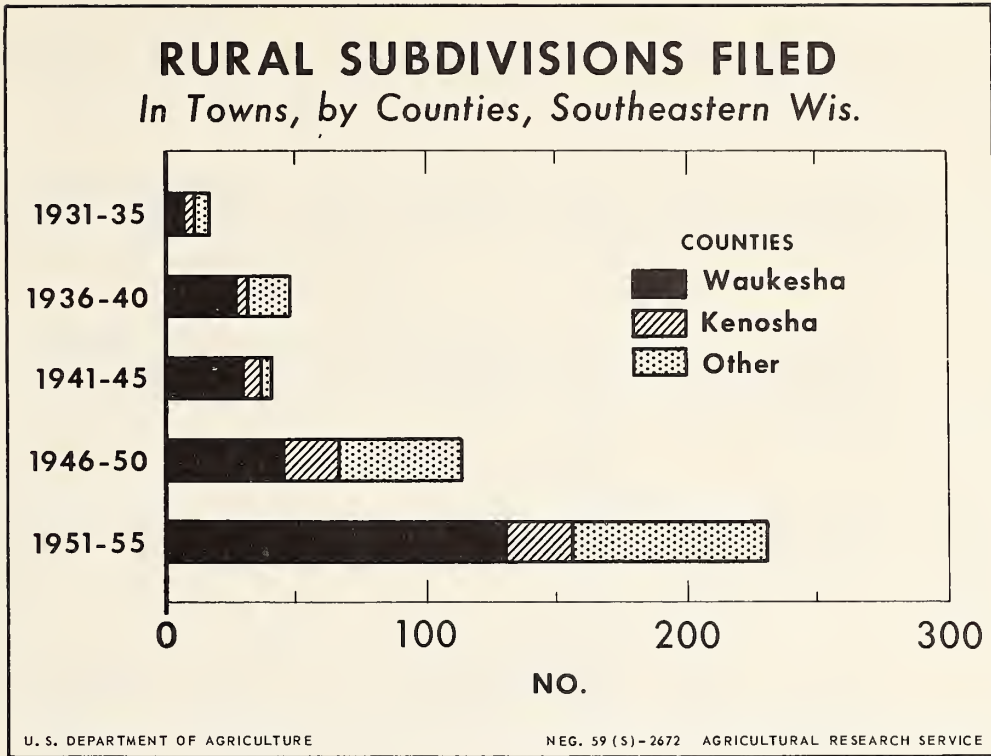


Figure 4

Table 8. - Status of lots for selected towns, Waukesha County, Wis., 1940, 1945, 1950, 1955

Town	Lots listed on the 1940 tax rolls											
	Status in 1940			Status in 1945			Status in 1950			Status in 1955		
	Number	Without improvement	With improvement	Number	Without improvement	With improvement	Number	Without improvement	With improvement	Number	Without improvement	With improvement
Brookfield T 1/.	0	0	0	0	0	0	0	0	0	0	0	0
Brookfield C 1/.	131	2,775	325	2,401	503	2,143	913	1,240	200	79	4	14
Elm Grove V 1/.	175	641	222	599	293	479	521	212	17	4	20	69
Menomonee.....	2	15	2	15	2	15	2	15	24	31	3	20
Muskego.....	319	427	347	405	399	363	448	226	24	3	7	40
New Berlin.....	242	1,199	303	1,125	407	1,044	560	894	4	6	7	4
Pewaukee.....	455	776	472	783	499	754	518	212	6	24	23	10
Waukesha.....	4	169	18	150	30	131	50	94	88	533	244	374
Total.....	1,328	6,002	1,689	5,478	2,133	4,929	3,012	2,893	---	---	---	---
Lots listed for the first time on the 1945 tax rolls 2/												
Brookfield T 1/.	---	---	0	0	0	0	0	0	0	0	0	0
Brookfield C 1/.	---	---	27	262	128	153	200	79	---	---	---	---
Elm Grove V 1/.	---	---	3	30	8	23	17	4	---	---	---	---
Menomonee.....	---	---	1	29	11	22	20	14	---	---	---	---
Muskego.....	---	---	7	95	17	86	24	69	---	---	---	---
New Berlin.....	---	---	40	87	67	61	96	31	---	---	---	---
Pewaukee.....	---	---	4	6	6	4	7	3	---	---	---	---
Waukesha.....	---	---	6	24	7	23	10	20	---	---	---	---
Total.....	---	---	88	533	244	372	374	220	---	---	---	---

See footnotes at end of table.

Table 8. - Status of lots for selected towns, Waukesha County, Wis., 1940, 1945, 1950, 1955, and 1955 - Continued

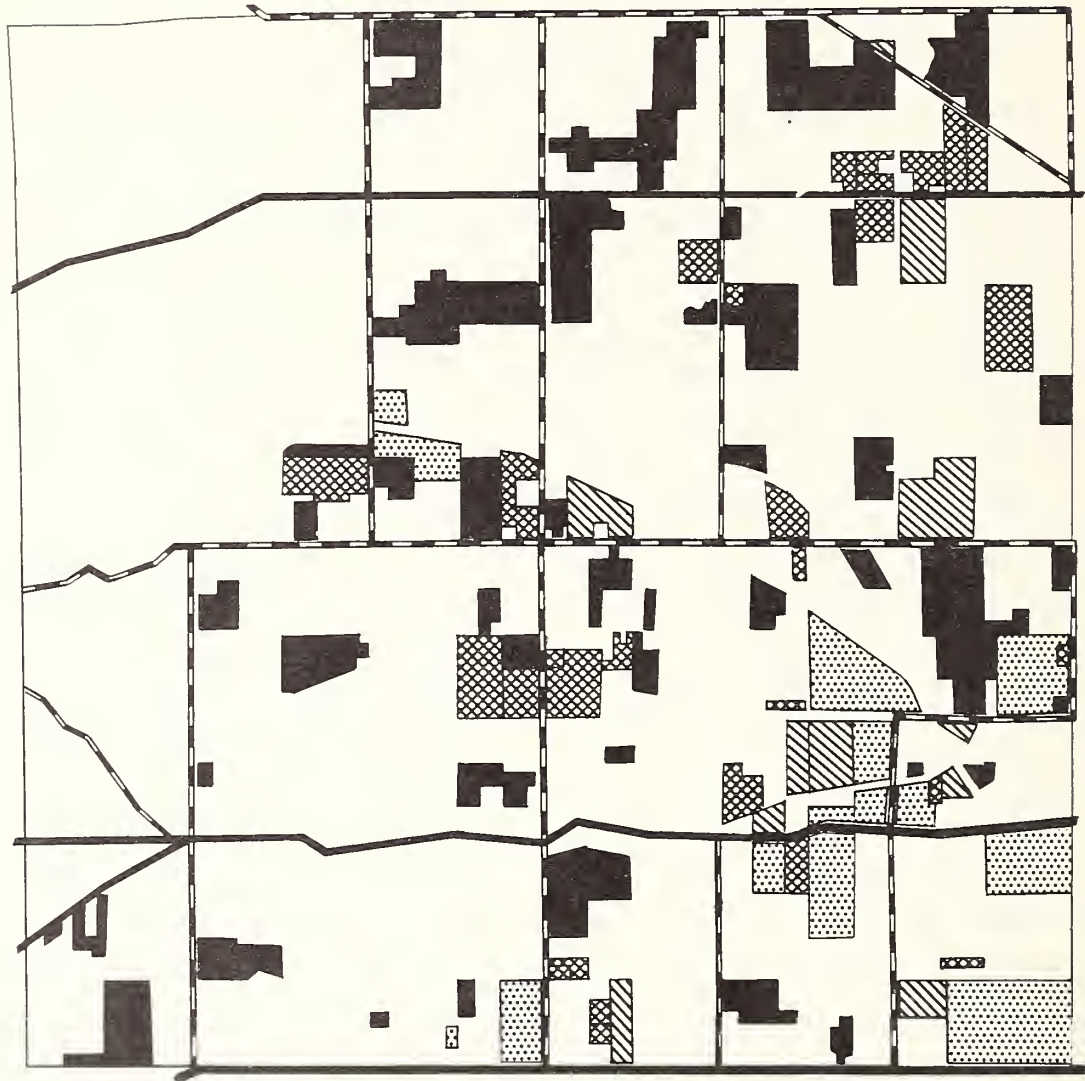
Town	Status of lots listed for the first time on the 1950 tax rolls 2/							
	Status in 1940		Status in 1945		Status in 1950		Status in 1955	
	With	Without	With	Without	With	Without	With	Without
	improve-	ment	improve-	ment	improve-	ment	improve-	ment
	Number	Number	Number	Number	Number	Number	Number	Number
Brookfield T 1/.....	---	---	---	7	25	29	2	2
Brookfield C 1/.....	---	---	---	112	311	318	75	75
Elm Grove V 1/.....	---	---	---	0	13	0	1	1
Menomonee.....	---	---	---	7	25	22	8	8
Muskego.....	---	---	---	34	21	34	21	21
New Berlin.....	---	---	---	74	173	184	66	66
Pewaukee.....	---	---	---	47	62	67	51	51
Waukesha.....	---	---	---	0	0	0	0	0
Total	---	---	---	281	630	654	224	224
Status of lots listed for the first time on the 1955 tax rolls 2/								
Brookfield T 1/.....	---	---	---	---	---	158	405	405
Brookfield C 1/.....	---	---	---	---	---	565	854	854
Elm Grove V 1/.....	---	---	---	---	---	8	11	11
Menomonee.....	---	---	---	---	---	66	229	229
Muskego.....	---	---	---	---	---	241	157	157
New Berlin.....	---	---	---	---	---	357	388	388
Pewaukee.....	---	---	---	---	---	0	0	0
Waukesha.....	---	---	---	---	---	46	64	64
Total	---	---	---	---	---	1,441	2,108	2,108
Grand total ..	1,328	6,002	1,777	6,011	2,658	5,931	5,481	5,445

1/ In 1940, 1945, and 1950, lots were in the town of Brookfield. For these years, the lots are located according to their governmental jurisdiction in 1955.

2/ Lots were assessed for the first time in the given year, or in the previous 4 years. Data compiled from tax rolls for given years.

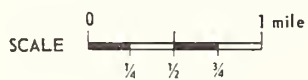
BROOKFIELD, WISCONSIN

Subdivisions Filed, 1931 - 55



HIGHWAYS

-  State or Federal
-  County



SUBDIVISIONS FILED





-  Prior to 1931
-  1931 - 40
-  1941 - 50
-  1951 - 55

Figure 5

the town, centered around what is known as Elm Grove and in the older community of Brookfield Center. The people in these subdivisions had relatively good access to transportation into Milwaukee.

For various reasons, 1950 can be considered as a turning point for the town. Except for some metes and bounds properties, the western half was open country. This changed rapidly within a 5-year period. In 1940, there were 23 sections without subdivisions; in 1950, there were 16; and in 1955, there were only 7.

What occurred in Brookfield between 1950 and 1955 was only a reflection of what took place earlier, except that it was on a larger scale. Urbanization involves two processes. First is the process of "spasmodic eruption" that occurs in open country as a new subdivision is created in what was formerly a farming area. The fact that subdivisions were created in an additional nine sections in which there were no subdivisions in 1950 indicates the importance of the spasmodic eruption process. It is a leapfrog process with no fixed pattern of points of landing.

Frequently, spasmodic eruption is followed by expansion. Once a subdivision becomes established, adjacent lands tend to be platted. This expansion of an area with an established subdivision as the core might well be termed the process of sprawl. 6/

Platted areas in Brookfield were pretty well built up in 1955, although a large acreage remains undeveloped. Spasmodic development causes considerable concern. Farming is well on its way out in this town. The number of farms decreased by 80 percent, land in farms by 73 percent, and land in reported crops by 71 percent in a 5-year period. One can only speculate as to what the situation would be if the developments had been guided in such a way that all desired and necessary public services were provided reasonably and efficiently. What, for example, would be the situation if development had been so guided that it moved out in waves that gradually encompassed in total larger and larger areas instead of leapfrogging from tract to tract?

6/ "Sprawl" is a term that has wide acceptance yet in its usual usage, it is not entirely appropriate. Two processes normally take place. One process involves spasmodic growth erupting here and there over a wide area. The second process is that of sprawl where these areas (as well as areas adjacent to incorporated communities) begin to expand. Within a given area, both processes occur more or less simultaneously after a short time.

One can speculate too as to what the situation will be 5 to 10 years in the future. Will the pattern that evolves be a costly and difficult one? The key to this probably centers around the effect of new superhighways in the area and the ability of the community to obtain adequate water supplies and adequate sewage disposal.

In recorded subdivisions in the six eastern towns in Waukesha County, 5,445 lots without improvements ^{7/} were listed on the 1955 tax rolls (table 9). Of the lots without improvements in 1955, 53.1 percent were listed on the 1940 tax roll. The remaining unimproved lots were in subdivisions that had been platted between 1940 and 1955 (table 10).

The number of unimproved lots is high, even though a large number of lots are utilized each year. In the six eastern towns of Waukesha County, there were 1,328 lots with improvements on the 1940 tax roll; in 1955, there were 5,481 lots with improvements. From 1951 to 1955, the number of lots with improvements increased by 2,823 (table 11), or 565 per year. In contrast, there was an average increase of 176 lots with improvements during the previous 5 years.

The 1940 tax rolls show that 18.1 percent of the lots assessed had improvements. By 1955, 51 percent of these older lots had improvements that had been made over a period in excess of 15 years. In contrast more than 40 percent of the lots platted from 1951 to 1955 had also been improved by 1955.

The tax rolls of 1955 listed 5,445 lots without improvements. In the 1951-55 period, 3,549 new lots, or an average of 710 lots per year, were platted. During this period, improvements were constructed on an average of 565 lots per year. These figures indicate that new lots were created faster than lots were built upon, yet data from the tax rolls show that the number of unimproved lots decreased during the period. From 1951 to 1955, the number of unimproved lots declined by 486. This apparent discrepancy arises from three primary sources. First, a block of 371 unimproved lots were vacated by court order within this period. Second, many lots are combined on the

^{7/} Each item listed in the tax roll as taxable property within any recorded subdivision is included as a "lot", even though it might be only a part of the lot or possibly more than one lot as platted. If the assessor shows a value for the land only, the lot is considered to be unimproved or undeveloped. But if he shows any value for improvements, the lot is considered as improved. It is not possible to determine from the tax roll either the type or the quality of improvements. Neither is it possible to combine two or more lots that are essentially one unit under the present owner.

Table 9. - Number of unimproved lots by selected towns, Waukesha County, selected years, 1940-55 1/

Town	1940	1945	1950	1955
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>
Brookfield (town) <u>2/</u>	0	0	25	407
Brookfield (city) <u>2/</u>	2,775	2,663	2,607	2,248
Elm Grove (village) <u>2/</u>	641	629	515	228
Menomonee	15	44	62	266
Muskego	427	500	470	473
New Berlin	1,199	1,212	1,278	1,379
Pewaukee <u>3/</u>	776	789	820	<u>4/</u> 266
Waukesha <u>3/</u>	169	174	154	178
Total	6,002	6,011	5,931	5,445

1/ Lots that appear on tax rolls without any value shown for improvements.

2/ In 1940, 1945, and 1950, all these lots were in the town of Brookfield. For these 3 years, the lots are located by their governmental jurisdiction in 1955.

3/ Adjustments have been made to eliminate subdivisions annexed to incorporated areas in 1955.

4/ In 1953, part of a plat containing 359 lots was vacated by court order.

Computed from data on tax rolls for given years.

Table 10. - Status of lots, by selected towns, Waukesha County, 1955

Town	Year lot was first assessed 1/											
	1940			1945			1950			1955		
	Number	Without improvement	With improvement	Number	Without improvement	With improvement	Number	Without improvement	With improvement	Number	Without improvement	With improvement
Brookfield (town) 2/	0	0	0	0	0	29	2	158	405			
Brookfield (city) 2/	913	1,240	200	79	318	75	565	854				
Elm Grove (village) 2/	521	212	17	4	0	1	8	11				
Menomonee	2	15	20	14	22	8	66	229				
Muskego	448	226	24	69	34	21	241	157				
New Berlin	560	894	96	31	184	66	357	388				
Pewaukee	518	212	7	3	67	51	0	0				
Waukesha	50	94	10	20	0	0	46	64				
Total	3,012	2,893	374	220	654	224	1,441	2,108				

1/ For 1940, this is assessed first in 1940 or in prior years. For the other years, the first listing on the tax roll was in the given year or in any of the previous 4 years.
 2/ In 1940, 1945, and 1950, these lots were in the town of Brookfield. For these 3 years, the lots are located by their governmental jurisdiction in 1955.

Computed from data on tax rolls for given years.

Table 11. - Lots improved, by age of lot, six eastern towns, Waukesha County, Wis., 1950 and 1955

Year lot first assessed <u>1/</u>	Lots with improvements			Unimproved lots in 1955	Percentage of unimproved lots in 1950 used in 1955
	1950 <u>2/</u>	1955	Net gain		
	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Number</u>	<u>Percent</u>
1940.....	2,133	3,012	879	2,893	23.3
1945.....	244	374	130	220	37.2
1950.....	281	654	373	224	62.5
1955.....	0	1,441	1,441	2,108	40.6
Total ...	2,658	5,481	2,823	5,445	34.1

1/ For 1940, first assessed in 1940, or in years prior. For the other years, the first listing on the tax rolls was in the given year, or in any of the previous 4 years.

2/ 1950 data adjusted for annexations to city of Waukesha.

Computed from data on tax rolls for given years.

tax rolls when the ownership is the same. Third, properties have been acquired by religious organizations or other tax-exempt groups.

Nevertheless, the number of unimproved lots represents a tremendous supply. If each were suitable for construction, there would be almost a 10-year supply at the current rate of utilization. It is true that some lots are too narrow for present-day standards and some are unsuitable for residential use. Even so, the supply is adequate to serve the needs for the next 7 years.

Many questions can be raised as to the effect of this large number of unimproved lots. Although it affects the individual, the primary concern is the effect on the community. Many illustrations can be seen of additional costs that the community must bear. For example, in one development involving 100 acres and 150 lots, there were only two houses in the winter of 1956-57. One was occupied and the other was under construction. That winter the town had the additional cost of snow removal on more than 2 miles of roads in this subdivision. At that time, there was no school bus transportation in the school district, but as in other areas demands for school bus transportation will arise as the population increases. Dispersed settlement makes it impossible to provide economical transportation.

Tracts of Less Than 20 Acres

In many parts of the area, one is likely to see a few houses set on small tracts in the midst of a farming community. Sometimes there is a string of houses in what is commonly called a ribbon development extending along the highway. Many of these are on an acre or two that the farmer sold off the farm. Few of the lots have recorded maps that describe the boundaries accurately.

In 1955, the six eastern towns in Waukesha County had 4,784 tracts of less than 20 acres with and 1,845 without improvements. Most of these tracts contained less than 10 acres. In the town of Brookfield, 1,406 tracts of less than 20 acres totaled approximately 4,500 acres. The number of tracts of less than 20 acres in this town increased by 450 from 1950 to 1955, and the acreage increased by 750 acres.

A commonly held view is that movement of population from cities to rural areas has involved the creation of many part-time farmers. Little evidence could be found in southeastern Wisconsin to support this view. Tracts not in recorded subdivisions are small. Almost half of the new tracts created in Brookfield from 1951 to 1955 were less than an acre in size. The average size of all new small tracts was 1 2/3 acres. Production on these tracts is usually limited to a home garden, which does not classify them as farms.

For the period 1951-55, 3,082 acres of land were shifted into a residential or potential residential use from some predominantly agricultural use. Yet during this period, there was a decline of 12,199 acres of land in farms, or 9,000 acres more than were shifted into platted lots or into tracts of less than 20 acres. In many areas, particularly in the eastern part of Waukesha County, there was evidence that lands that were then idle had been farmed only in recent years. Lands held out of use, possibly in expectation of future gain, accounted for a larger acreage than the amount of land that was shifted directly into residential uses.

PROBLEMS CREATED BY CHANGES

When the study reported was initiated, emphasis was directed toward the problems of the farmer and his use of the land when nearby tracts shift into a nonfarm use. As the study progressed, the need for greater consideration of "community problems" became obvious. It was recognized that shifts in land use affect strongly the remaining farmers. But there are also important problems that affect the community, the school district, the town, and the county in which the farms are located, as well as adjacent or neighboring areas with which they unite to form a larger area. These problems grow in importance as the population density increases.

Farm Problems

A few farm problems have been mentioned. The rapid decline in acreage of agricultural land in the area studied is considered a problem by many. This decrease in acreage of agricultural land was not due entirely to a shift from agricultural to residential use. The main cause was a shift from an agricultural use to temporary nonuse. ^{8/} The farms that remain are concentrated largely in certain parts of the area. Some are "trapped" among non-farm uses. Many farmers rent additional land. This means that the sale of farmland can have multiple effects. If a farmer has been renting land that has been sold, he may need to make considerable adjustment within his remaining acreage in order to stay in production.

Thirty-six farmers in the four school districts studied supplied information relative to their problems. Frequently, in stating their problems, the farmers were not using a uniform basis of observation. Some farmers answered the question in terms of their own farms. But most of them answered in terms of changes taking place within the community, the school district, or the town of which they were a small part.

Changes in farming operation. - Three of the 36 farmers interviewed had been operating their farms for less than 5 years, but in each instance, they had acquired the lands through an intrafamily transfer. Of the 33 others, two had increased the size of the operating unit between 1951 and 1955 by renting additional land and a third had cleared land within his unit. Eight farmers had increased the size of their milk herds. One had increased the size of his herd by 80 percent while the others had increases ranging from 10 to 25 percent. Three had decreased the size of the herd, but in one instance, this was due to disease. One of the three shifted out of dairying completely.

Major land uses within most of the units remained fairly constant. In the three instances in which the farmers increased the amount of cropland, the additional land was cropped in the normal rotation pattern of the farm. No evidence could be obtained that in 1955 the farm operators had made any changes in the organization or operation of their farms because of urbanization.

^{8/} The term "nonuse" is used intentionally. Reference is made by many to idle lands or idle farmlands. Usually this phrase carries the connotation that the land is temporarily idle but that it will return to its previous use. In the rapidly changing urban-rural area, there is little likelihood that land that is temporarily idle will return to an agricultural use. Its present use is a nonuse until the owner believes that the time is ripe for another change in use.

Price of land. - One question asked the farmers interviewed related to the effect of price of land on farm operations. The usual reply was that they knew of no land that had been purchased as farmland in recent years. Farmland had been sold, but the sale meant a shift to nonfarm use. Some land sold for as little as \$500 per acre, and prices as high as \$2,500 per acre have been reported. Farmers could not compete with other potential buyers in obtaining the lands that were on the market. Current as well as anticipated farm income cannot support such values. If other conditions were favorable, however, some farmers who need additional land for more efficient use of their resources might well be able to pay the high price. At present, these other conditions 9/ do not exist. Today, transfer of ownership of a farm in an area in which sprawl is occurring means a change to a nonfarm use or to nonuse of the land and possibly also a similar change in use of any other lands that had been previously rented by the operator.

What does this mean to a farmer who is in an area in which residential developments are expanding rapidly? The price of farmland will not permit him to increase the size of his unit. (Some farmers will be encouraged to sell small tracts because of the high prices.) The possibilities of renting additional acreages are limited. To a farmer who is ready to slow down, this will not matter too much. He is not concerned with increasing the size of his operations. He hopes only to hold on for a few more years until he is ready to retire. The reported prices for land are attractive. Over and over the impression was gained that many farmers look to the current price that is paid for land as a basic means of providing for their retirement.

For the younger farmer, the situation differs. Three cases are examined:

Case A. - This farmer, who was in his early thirties, owned 140 acres. No subdivisions were adjacent to his farm, but some were nearby and there were reports that more were coming. Apparently, little thinking had been done about how these subdivisions would affect him, yet he had some apprehensions that problems might arise, possibly because of trespass. At the same time, he was considering the possibilities of dividing a small wooded tract for which he had little use. Apparently, he had given little consideration as to how his future might be affected if subdivisions surrounded his farm.

9/ Some of these conditions would be ability to finance the purchase, possibly with a large part of the purchase price carried as a long-term note requiring only interest payments until the land is resold; assurance that farming can remain in the area for a while; assurance that the tax burden will not be such as to force him out of business; and assurance that farming will not become a nuisance in the area.

If he remains, in another 10 or 15 years, he may find himself surrounded by nonagricultural developments with no opportunity to expand his operations.

Case B. - This farmer was just over 40; he operated 180 acres, a third of which were rented. The ownership of the rented land was such that he could not reasonably expect to retain the use of it for any length of time. Between 1950 and 1955, he had increased the size of his herd by 80 percent and had improved his buildings considerably. He had no desire to move.

The improvements were made with the expectation that he could keep on farming until he was ready to retire. He reasoned that if he could retain the present operating unit for another 10 years, he could easily adjust his operation downward to his own land. He recognized that probably he would want to reduce his physical activity at that time. However, he believed that if he could not retain the present size of his unit, he could buy feed at only a slightly higher cost.

This farmer recognized that the activities in his community might affect him. He recognized also that his might be one of the few remaining farms in the area. Because of his desire to remain where he was, he had appraised his situation and was making adjustments that would enable him to keep in operation until he was ready to retire. It is probable that one phase of his appraisal was missing. He had assumed that marketing arrangements would remain the same. But if he should be the only farmer left in the area, he might find it more difficult to market his milk. With changes in land use, marketing arrangements would change also. An unknown factor is whether milk handlers would continue to serve him in the future.

Case C. - This farm had consisted of about 90 acres of rather unproductive soil. The owner was just under 50; he had operated the farm with a son who was in his early twenties. He sold 80 acres at \$500 per acre. He was able to buy another farm almost double in size, with far better soil, and with a good set of farm buildings, and in a location removed from the immediate effects of residential development. The new farm cost approximately 6 percent more than the price received for 80 of the 90 acres in the smaller farm. The indebtedness was less than 20 percent of the purchase price. Favorable prices enabled this farmer to improve his position without assuming excessive indebtedness.

Whether the father would have made the move if his son had not been operating the farm with him is questionable. A hypothesis that needs more study in an urban-rural area is that as a farmer nears or passes middle age, his willingness to reestablish himself elsewhere is reduced.

These three cases illustrate the point that current land prices may be either advantageous or disadvantageous to farmers. High prices may prevent them from enlarging their present units; but high prices for land might enable some farmers to better their position by transferring to other locations. For a farmer who is ready to retire, however, high prices might make the retirement goal more readily attainable.

Land available for rental. - Many farmers who rent land in the transitional area to increase the size of their operating units are finding it more difficult to obtain land. Farmers who rent land have no assurance that they will be able to use the same land in succeeding years. In fact, there is no assurance that many of them can rent any land. Their plans for operation of their farms must be on a year-to-year basis.

The farmers who rented land were asked, "What would you do if you could not locate some land to rent?" The answers of all except one indicated that they were living from year to year with no apparent plans for adjustments that would become necessary. The only operator who had considered the adjustments he would make was the one previously discussed.

Owners who had farmland that they wanted to rent out, however, had little difficulty in finding someone who wanted to use the land. This is not likely to be the case in the future. As the number of farms decreases, the landowner will find it more difficult to find someone who will want to use his land. This situation has not yet arisen except in areas near Milwaukee County.

Fencing. - A subdivision in the midst of farmlands can create new and complicated problems for farmers who have adjoining property. Suppose a farmer with half a quarter-section has a boundary line that extends for 1 1/2 miles. If the narrow width of his property fronts on a public road, he has 1 1/4 miles of boundary line in common with adjoining properties. Problems or conflicts can arise when the adjoining owners are farmers, even though these owners have more or less common interests. Their problems are relatively minor as compared with the situation when the adjoining land becomes residential property. Previously, a common fence line of one-half mile might have had one farm owner on the opposite side. If this farm is divided into 80-foot lots, one farm owner might be replaced by as many as 33 lot owners with varying interests.

With farmland on both sides of the fence, each landowner has a personal interest in maintaining the common fence. But the 33 individual lot owners may see little reason for helping to maintain the fence. They have no cows. The farmer has cows, and they may argue that he should keep his cows at

home. The attitude of lot owners has more or less forced farmers to accept the responsibility for maintaining the entire fence.

Trespass. - In general, trespass was not presented as a serious problem. One part-time farmer reported that he had to shift out of livestock because of trespass by youngsters from nearby subdivisions who "continually" chased his stock. At the other extreme was the farmer who recognized that some youngsters played in his grain fields, but said the damage was "not too great." The latter acknowledged that he was farming in an area that was undergoing changes and that he more or less had to accept the change and what went with it. He had greatly increased his public liability insurance and was keeping his livestock close to the barn.

Problems of trespass in various forms were mentioned by 18 of the 33 farmers interviewed. But trespass was not mentioned as a problem by any farmer in the school district with no subdivisions. Problems mentioned included trespass by hunters, youngsters playing in grain fields, youngsters annoying animals, and dogs running loose. Although farmers reported damage by trespass, the consensus was that it was not too serious. Apparently, this attitude was tempered by a recognition that farmers must live with some of the problems that arise when an area is in a transitional stage.

Taxes. - When questions relative to taxes were asked, the farmers discussed school taxes. Taxes levied for town or county purposes ^{10/} were not mentioned by farmers in their discussions. Not mentioned either was the income tax that is shared by the State, the county, and the town in which the taxpayer lives but not by the school district.

Many farmers said they thought taxes were too high, but only two reported that they were a major problem at the time. Three farmers said that taxes could force them out of farming. Whether taxes per se will force farmer-owners out of farming is open to argument. Little evidence was found that farmers had sold their land because of high property taxes alone.^{11/} High taxes, however, might be one of the factors involved. At times, taxes can be "the straw that broke the camel's back." A farmer who is well along in years, whose physical capacity had been restricted, and who had what he considered to be a nice offer for his land might conclude that he sold because of the increasing taxes, even though this was only one of the factors that encouraged him to sell.

^{10/} There is also a State property tax, but this amounts to only two-tenths of one mill for each dollar of assessed valuation. This is paid into the conservation fund and is used for various forestry purposes.

^{11/} It is possible, however, that high income taxes arising from capital gains have encouraged many farmers not to sell their land.

Farmers have some basis for complaints about taxes and assessment of their property. One farm in each school district is used as an example to show how assessments and taxes have varied. The assessed valuation of these farms, as well as of others in the districts, were relatively stable from before 1939 until after 1949 (table 12). For one representative farm, the assessed valuation increased by less than 50 percent from 1949 to 1954, but for the other three farms, valuations had more than doubled or more than tripled in 5 years. These changes were due chiefly to reassessment of all property, with the larger part of the increase on improvements rather than on land.

Table 12. - Size of farm and assessed valuation, representative farms, by school districts, southeastern Wisconsin, selected years, 1939-54 1/

School district	Size of farm	Assessed valuation in -			
		1939	1944	1949	1954
	Acres	Dollars	Dollars	Dollars	Dollars
A	44	4,200	3,900	4,400	5,700
B	80	8,000	7,100	7,300	18,450
C	149	10,600	9,800	9,800	36,840
D	107	7,200	6,000	6,000	22,640

1/ Including land and improvements.

Compiled from data taken from tax rolls.

Taxes did not follow the same movements. For these four farms, taxes levied on real estate more than doubled from 1944 to 1954 (table 13). This is true in the school district in which the educational plant has not expanded, as well as in the others. Stocker shows that total general school expenditures in this district increased by more than 180 percent from 1944 to 1949, 12/ so that the additional school expenses could have accounted for a large part of the total tax increase. During the next 5 years, the school expenses increased by another 50 percent, with no change in the school plant.

12/ Stocker, F. D., Some Effects of Suburban Residential Development on Local Finances, Agr. Econ. Res. 9: 37-53, April 1957.

Table 13. - Taxes levied for all purposes, representative farms, by school districts, southeastern Wisconsin, selected years, 1939-54

School district <u>1/</u>	1939	1944	1949	1954
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
A	68	88	194	232
B	166	132	267	270
C	196	185	430	655
D	136	111	243	324

1/ Districts are the same as shown in table 11.

Compiled from data taken from tax rolls.

Highway relocations. - Highway relocations can seriously affect a farmer's future. For a period of time, there are many uncertainties as to how he will be affected. He has heard "reliable" rumors that the highway is to be relocated, and for a while there is much speculation as to its exact location. If he believes that his property will be involved, he becomes vitally concerned. A 300-foot right-of-way, for example, for a new interstate highway will take 9.1 acres if the highway crosses the narrow part of a standard 80-acre tract (1,320 by 2,640 feet). This is 11 percent of the tract. If, instead, the highway crosses the length of the tract, twice this acreage is taken. If the acreage taken is cropland, the farmer who is affected will have difficulty in making adjustments in the operation of his farm to offset the loss of part of his productive resource.

A more critical problem arises when highway relocation divides a farm. A limited-access highway can make a part of the farm inaccessible to the operator for farm use.

Traffic. - The change from agricultural to residential use means increased traffic. This was mentioned by eight farmers as important, but no farmer in the school district in which there were no subdivisions mentioned it as a current problem. One farmer there reported that it would become a problem within the next 5 years.

The increase in traffic was accepted as a problem for two primary reasons. The farmer who must cross a main highway recognized increased traffic as a problem because of the greater dangers involved in moving livestock and equipment. Other farmers viewed it as a problem because they realized that the greater volume of traffic associated with increased concentrations of population has resulted in the posting of lower speeds.

One farmer, whose farm is on the busiest highway in the district, said that the increased traffic was an asset because it brought a larger number of customers to buy farm products at his roadside stand. He had to move equipment across the highway, but he ignored the dangers involved in doing so.

Weeds. - Five farmers reported that the problem of weeds increased with the creation of subdivisions. Four of these five were in a school district in which there is considerable idle land as well as many undeveloped lots. Evidently, a large part of the idle land is held by persons who expect to gain by future developments. These farmers reported that the problem had increased greatly because on much of the land that is idle, weeds are uncontrolled. Another farmer said that weeds did not constitute a problem now but that they could easily become one on idle lands.

Entrapment of farmers. - The pattern of nonagricultural development has "trapped" some farmers within areas that are now predominantly urban. As residential areas expand, small groups of farms may be completely surrounded by nonagricultural developments. Decision-making on the farm will be affected greatly by urban influences. The entrapment will encourage prospective farmers to stay out of the area. Inability of the urban or industrial land market to absorb additional lands may mean that much of the land that is farmed under such conditions will become idle when the current owner ceases to operate it.

Community Problems

Some problems previously discussed can also be classified as community problems. At times, it is hard to distinguish between a farm and a community problem, but in general when a situation affects an area larger than a few farms, it is considered a community problem.

When an area shifts out of farming, the enterprises that have been established to provide services for the farmer must make adjustments in order to survive. Milk haulers face the greatest change, for in many areas longer hauls are involved in loading the truck. Merchants who handle farm equipment, fertilizer, seeds, feeds, and other supplies are affected also. Possibly, some of them can shift into other lines of business to serve the nonfarmers.

In considering community problems, major emphasis was centered on what happens to the community when a tract of land is platted. For example, only one family may have lived on an 80-acre tract of land with frontage on a public road. But in an 80-acre subdivision, there might be as many as 120 families. New roads are required to provide access to the interior of the tract. Many families may have moved from the city; they are accustomed to public water and sewage systems, garbage collection, and other facilities that they accept as necessities. This change from one large tract with one family to many small tracts with a family on each, can force the school district and the town to make costly adjustments.

Schools. - Even if a new subdivision were screened completely from the farmer's view, within a year's time he would know that it was there. With the new subdivision, there would be more children, with new or increased pressures on the school and increases in taxes. The change in the school tax is the first effect that the farmer recognizes.

An implication frequently made was that "the schools will take care of themselves" as problems arise. This view is supported by the fact that in the three school districts in which subdivisions have resulted in large increases in the school population, only two farmers interviewed reported that schools were likely to be a major problem in the future. A third indicated that he believed it would be a minor problem. In contrast, 10 of 12 farm owners in the fourth district, in which there had been no residential development, stated that schools will be a problem in the future. These 10 property owners knew that their school plant was used to near capacity and that the new subdivision within the district could bring in more than 100 new families. The other school districts had met similar situations in the past, and the general attitude was that the problem would solve itself. But it would be a new experience for the fourth district. Residents of this district were aware that other school districts have faced serious problems in converting from a one-room to a multiple-room district.

Two other districts are examples of what has occurred elsewhere. One, in Racine County, was served by a small school. When plans for a large subdivision were announced, the farmers in the area realized that they might have several hundred additional families in their midst. These families would come from an area in which the average house would cost considerably under \$10,000 ^{13/} and, as a result, they would yield relatively little tax revenue. The solution adopted was to make two districts of the existing large

^{13/} In this town, residential property is assessed on the average at 67 percent of its full value. If the full value is \$10,000, the taxes would be based on an assessed valuation of \$6,700.

one. The new district without a school plant included the subdivision; the old district with the existing school plant included all the farmland.



For more than 3 years, houses like this have been rented to serve as temporary classrooms. (BN-8861-X)

The large number of families who moved into the area in the middle of the school year found themselves in a school district that had no organization, no school, and no revenue with which to operate a school. ^{14/} One parent who had several youngsters of school age was asked why he moved into an area without schools. His answer was, "We drove around the country and saw all of these schools and we thought that the town would take care of us." Previously, he had lived in a city. He failed to realize that city school systems differ from those found in most towns in southeastern Wisconsin. He knew from experience that "the city would take care of his needs," and when he moved to the country, he thought that the "town would take care of his needs." Some 3 years later, the newly created district was still without its own educational plant. Property had been acquired with the expectation that construction would start in the near future, but in 1957, the district was still renting houses for classroom purposes (fig. 4).

^{14/} A citizens' committee operated the school during the remaining part of the first year, with the operation financed by personal notes signed by the inhabitants to a local bank. A house was used as the school plant.

This situation - a community with no school plant or school organization - is an extreme one, but it differs from the situation in other areas only in degree. In another area, a one-room school district found itself with a subdivision of more than 100 lots on most of which low-cost houses were built. In 1954, this district had a school population of 19 pupils. In 1955, with 66 children, the school operated in two shifts. Of the 66 children, 57 came from the new subdivision. This increase in school population could have been anticipated several months in advance, but the school district was unable to cope with the situation. The school was closed and later reopened by State action. Pupils attended on an overcrowded, split schedule. Later in the year, the district acquired used quonset barracks, which were moved to the small school site. In 1957, the district started construction of a 4-classroom school building on a new site. This new plant will serve current needs adequately but for 3 years, the district operated on an unsatisfactory basis.

These two examples show that tremendous changes can occur within a relatively short time. In the first example, there was some indication that this subdivision would be platted and developed some time before September 1954. In December 1954, families were moving into the area. In May 1957, there was still no educational plant. In the second case, there was also advance notice of what was to happen. Here the children had a temporary emancipation from school. The district acquired temporary facilities to keep going. Some 3 1/2 years after the first notice, the school district had a school plant that is considered adequate to serve its needs.

This lag can be explained largely by the difficulty of the small districts to develop plans to meet anticipated situations. Even if it were possible for districts to prepare these plans, they would be faced with a difficult financial situation that tends to force deferment of action.

The four school districts studied have unused debt capacity (table 14). The situation in district D is of concern to most farmers in that area. In 1954, this district had an equalized valuation of \$697,000. At that time, there were no subdivisions. Only 14 properties with less than 10 acres each were listed on the tax rolls, and all of these were improved. There were 21 tracts with 10 acres or more. Practically all the tax base arose from the agricultural resources of the community.

In 1955, a tract of 96 acres was subdivided into 147 lots, each approximately a half acre in size. The one-room schoolhouse on a 1-acre site can accommodate no more than 12 additional children. If development occurs in this subdivision, what will happen to the school? The district can borrow about \$35,000. This will not go far in building a new school, particularly when additional land or a new site is required.

Table 14. - Borrowing capacity, unpaid debt, and local tax collections per \$1,000 equalized value, by school districts, southeastern Wisconsin, June 30, 1954

School district	Gross borrowing capacity	Unpaid debt	Unused borrowing capacity	Taxes collected per \$1,000 equalized value
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
A	397,900	197,180	200,720	11.43
B	185,300	68,000	117,300	5.82
C	90,300	52,617	37,683	8.11
D	34,850	0	34,850	5.12

Computed from data by F. D. Stocker. See footnote 12, page 34.

The tax collections in this school district were \$5.12 per \$1,000 of equalized value as compared with \$11.43 per \$1,000 in district A. In other words, the tax rates could be more than doubled in district D and still be no greater than they are in district A. If taxes were doubled, the increased revenue would amount to \$3,600 per year. Amassing a building fund by this process would be slow. School district D will have a problem as soon as large-scale construction occurs in the new subdivision, but because of its financial situation, it can move only slowly.

The timing of construction and occupancy of new houses is important to the farm owner. Property is assessed as of May 1. The property can be assessed as farmland in a given year and, within a few months, it can be a fully developed housing project. If a subdivision is fully developed within a few months after the date of assessment, greatly increased demands are put on the school the following September. The property is not assessed as residential property with improvements until the following May, and taxes based on the new use are not collected until some 11 months later. Families may live in a new community more than a year and a half before the school district receives any revenue from them.

Let us continue with the 147-lot subdivision. On the basis of the number of children enrolled per 100 occupied residences in Waukesha County, it is estimated that school enrollment would be increased by a minimum of 54 children. An influx of this size would create some major problems for the school district.

First would come the matter of providing space. So far as could be determined, no facilities are available in the district for use solely as an emergency measure. Second, if space could be provided, there is the problem of locating teachers. Third, the space must be equipped with necessary furniture and supplies. The current operating expenses would increase greatly for the school district. These operating expenses must be paid from current revenue, most of which is derived from property taxation.

During the first year, the tax revenue for operation of the school would be derived primarily from the same tax base as before. In 1955, the equalized value per pupil in average daily attendance was \$33,124. With an additional 54 children enrolled in school, the equalized value per pupil in average daily attendance would be reduced to \$9,300. State aids on the basis of equalized value and the current mill rates could amount to \$70 per pupil, or a total of \$5,250. If general expenditures increased in direct proportion to the number of teachers, \$9,059 would need to be raised. If the entire amount were raised by levies against property, the amount collected would be 125 percent more than the taxes levied against the same property in 1955. Farmers must bear the major share of the tax increases that arise from suburbanization until the new property appears on the tax rolls.

Once the property is on the tax rolls, the type of development and the assessment policy of the town will determine to a large extent whether the farm owners must, in effect, subsidize the development. It can be assumed that all property will be assessed equally so that the discussion can be limited to the effects that the different types of development might have on the tax revenue situation. For purposes of discussion, three hypothetical situations are considered (table 15). One involves so-called "low-priced" houses, the second "medium-priced" houses, and the third a development with "high-priced" housing. So far as this school district is concerned, houses with an assessed value of less than \$14,000 will not provide sufficient tax revenue to carry the additional school costs involved. The excess costs must be borne by all property owners.

Highway relocations. - Relocation of highways, construction of throughways, or remodeling of old highways to present-day standards and needs put heavy burdens on farmland and local communities. Probably the most critical effect of highway location on the community is the physical barrier that is created within school districts, towns, or other government units that are

Table 15. - Assessed valuation and tax revenue per house, and taxes and school costs per additional pupil in average daily attendance, three hypothetical developments

Item	Type of housing		
	Low-cost	Medium-cost	High-cost
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Assessed valuation per house	7,000	12,000	20,000
Tax revenue per house	35	61	102
Taxes per additional pupil in average daily attendance	95	165	275
School costs per pupil in average daily attendance	190	190	190

divided. For example, in Pewaukee School District 8, the relocation of State Highway 30 will create a physical barrier that will separate the area in which the majority of the population lives from the school plant. The school district cannot prevent this physical barrier, which can increase greatly its operational problems.

This problem is also of concern to towns. In the case listed, the southern 2 miles of the town of Pewaukee will be isolated by the highway from the northern 4 miles of the town. What effect will this separation have? For example, will it mean that the people of the area will tend to lose interest in town government? Will their allegiance turn elsewhere, perhaps to the city of Waukesha?

Sewage disposal. - A drive through various subdivisions at certain times will leave little doubt that disposal of household wastes is not entirely satisfactory. Odors from these wastes permeate large areas. These odors are not limited to subdivisions with 40- or 50-foot lots and inexpensive houses; they arise also in subdivisions with lots of one-half acre or larger and with houses costing \$20,000 or more. The odors do not come about because the lots and houses are small; they exist because of the physical inability of the soil to handle the sewage effluent from individual septic tanks. On many lots, there is a patch of heavily saturated ground. Sometimes, the ground is so wet that no vegetation grows on the spot. The water comes from the end of the drain field or possibly from the vent pipe for the septic tank.

The inadequacies of many sewage-disposal systems can be recognized also by the fact that much of the water from automatic clothes washers and kitchens is diverted. Sometimes a hose or pipe extends from the house into the side lot or the roadside ditch. Frequently one can see foamy water flowing from them. Increasing the size of lots will not correct these situations. Increasing the size of drain fields will help when the ground is relatively dry, but the effectiveness of this action when the ground is saturated is questionable.

Those interviewed in the area in which there had been no residential development had some apprehension of what would occur in the future, while those in areas in which development had been taking place expressed little concern about either the current situation or what might happen in the future.

These unsanitary conditions indicate the inadequacies of the present systems of disposal of household water, a situation that could erupt suddenly as a serious community problem that would affect a large area.

The fact that lot sizes must be large to permit an adequate sewage effluent drainfield has been emphasized. Zoning, for example, requires lots to be at least a certain minimum. Some of these minimums are established on the basis of adsorption tests. A number of those interviewed expressed the opinion that sewage disposal would not be a problem because lots were of adequate size. ^{15/} Large lots do reduce the concentration of population, but reduction in concentration of population does not attack the basic physical condition that creates the problem - the inability of the soil to absorb adequately the sewage effluent.

Minimum sizes for lots reduce to some extent the possibility that the situation will get out of control, but the steps taken to prevent this will make it even more difficult and more costly to provide for adequate sewage disposal in future. Larger lots mean that sewage trunk lines will be more expensive as fewer families can be served per mile. Central sewage disposal systems will be expensive to construct, regardless of how subdivisions are laid out. Large lots can increase greatly the costs of providing an adequate sewage-disposal system for a given area.

Water supply. - Many homes in the urban-rural area of southeastern Wisconsin obtain their domestic water supplies from individual wells. Although some instances of contamination have been reported, so far there

^{15/} A similar view was expressed in regard to garbage disposal. It was stated that garbage disposal would be no problem in a development involving half-acre lots, as there was adequate room for the occupants to bury the garbage.

have been few problems in obtaining an adequate source of safe water. As the area becomes more densely populated, contamination of water from individual septic tanks and shortages of ground water because of increased demands upon a limited supply are likely to occur. Disposal of household wastes and provision of an adequate supply of safe domestic water are two tasks that might be handled together by some central agency or agencies instead of by many property owners acting individually.

Drainage. - Drainage is a problem for many areas in which the natural flow has been restricted by various uses and for built-up areas that do not have adequate natural drainage. For example, in one subdivision in the town of New Berlin, water stands in ditches and other low spots for long periods. Proper ditching could correct that situation. In another subdivision not too far away, a similar situation exists. In this case, however, the entire area had previously been drained with agricultural tile and farmed. Many tile lines have been broken, and water tends to accumulate in certain spots instead of running off as it did previously. Marsh vegetation grows in many parts of this subdivision. Housing construction, however, continues in this area.

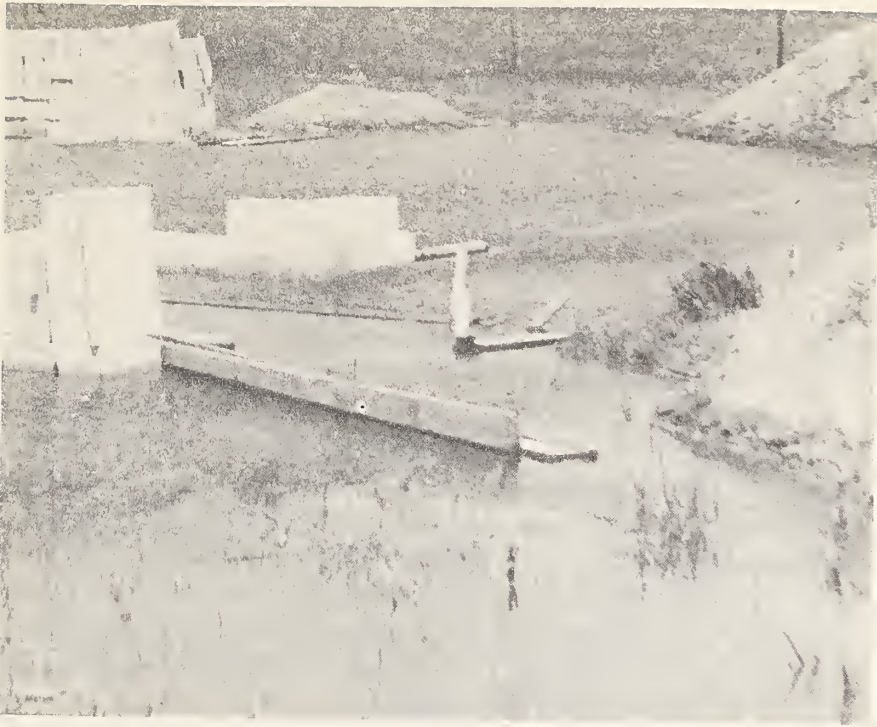
When the soil does not absorb the precipitation, runoff creates several problems. Water in basements, in the yards surrounding the houses and in roadside ditches for weeks after rains, frozen culverts, scouring of unprotected ditches, flooding of roads, and roads covered with gravel and sand are common occurrences. Some of these involve personal expense; all involve personal inconvenience. Many involve public expense arising from additional costs for ditching along roads, cleaning ditches after rains, thawing culverts, removing gravel and sand from roads and culverts, and repairing damage to roads and ditches caused by the heavy runoff from unprotected lands or from roofs and driveways.

INSTITUTIONAL TOOLS

The transition from agricultural to residential use has created problems in many communities of the area. Various powers that have been granted to the different units of government are available for use. Existing institutional tools appear to be adequate to prevent certain undesirable conditions from developing.

Zoning. - Along with planning, zoning had long been recognized as the main tool for guiding land use. In June 1954, either county or town zoning ordinances were in effect in many towns in the six southeastern counties. 16/

16/ Rural Planning and Zoning, Wisconsin Bureau of Engineering, State Planning Division Bul. 19, June 1954.



Water is being discharged from the kitchen sink or washing machine into a roadside ditch. (BN-8859-X)



With construction delayed for almost a year by water several feet deep, the owner still planned to build. Construction was started with marsh grass in evidence. (BN-8860-X)

During the following 3 years, there was little change in the area covered by these ordinances. To date, however, zoning has been relatively little used to provide guidance or control.

The function of zoning, along with planning, is "to develop and administer a plan which will serve as a guide to future proper land use." ^{17/} Zoning is a guide for what is to take place in the future. In examining various zoning ordinances and zoning maps, it is unusual to find that the ordinance and the maps are actually guides to future development. Goldstein reports that in Brookfield, there had been approximately 200 amendments to the town zoning ordinance since its adoption in 1940. ^{18/} Most of these amendments involved changes in boundaries of districts on the zoning map. Many of the 200 changes made during the 14-year period actually were spot zoning with little or no guidance provided for future development. As administered here, zoning was merely a slight obstacle to the subdivision of land. Petitions were made for a change in zoning from an agricultural district to a certain type of residential district. Goldstein indicates that it was unusual for such a petition to be denied. The map showing land use districts, as the ordinance was administered in the town of Brookfield at least until 1954, was a reflection of current or intended land use. Zoning did not guide residential developments, industrial development, or other uses into specific areas in this town.

This situation does not exist everywhere. Goldstein reports that in the town of Muskego, 30 percent of the land was allocated to agricultural use on the 1955 map as compared with 95 percent on the 1945 county map. A small part of the difference is due to the residential developments in this town during these 10 years, but most of it comes from the recognition that certain areas are adapted to residential use. In this instance, zoning is used to encourage residential developments within certain areas. The town ordinance adopted by Germantown also shows a small amount of land that might be developed for residential uses and other tracts that might be developed for industrial uses at some future date.

Changes in use districts are needed over a period of time, for zoning does not imply a static use for all time. Day-to-day changes need to be discouraged if the zoning ordinance is to be effective.

^{17/} See footnote 16.

^{18/} Goldstein, E. E., Land Use Control Problems in Waukesha County, Wisconsin, Thesis, Doctor of Juridical Science, University of Wisconsin, 1955. [Unpublished.]

Guidance can be provided at the town level by either a county or a town ordinance, but if the guidance is to be effective, the people involved need to be willing to accept it. Guidance can be provided within the boundaries of the legal town, but only limited influence can be exerted in areas adjacent to the town.

The sewage-disposal situation and the need for central plants to serve certain areas suggest a modification in the zoning ordinance. There is need to designate areas in which central sewage systems set up according to acceptable technical standards are necessities for the protection of public health. The State Board of Health would normally be expected to make this designation as the problem is not limited to any one community, town, or county. However, if the State Board of Health were to be given this additional responsibility, it would need to be provided with the funds, authority, and other necessities to devise acceptable standards and enforce them. Little will be accomplished if the function is assigned without the means for carrying it out. If this were done, towns or counties would need to modify their zoning ordinances so that residential uses would not be permitted in areas so designated unless served by central sewage-disposal facilities.

Areas in which central sewage systems are required might be zoned, if future residential use is desirable, as "conditional residential districts" - the condition being the existence of central sewage-disposal systems. If the district is suitable for agricultural uses, it might be zoned as an "agricultural district - conditional residential district," thus permitting an interim use with the provision that the permitted use will change from agricultural to residential when central sewers are available.

If the State is empowered to designate areas in which central sewage systems are required, it is suggested that appropriate powers to regulate residential development within these areas should also be conferred, but subject to exercise only if towns or counties indicate their unwillingness to direct development in the area as planned.

Town sanitary district. - Each town board is vested with the jurisdiction to establish town sanitary districts. This function can be exercised only if it has been determined as a result of a public hearing that the proposed work of the district is necessary and that the "public health, comfort, convenience, necessity, or public welfare will be promoted by the establishment of such district." ^{19/} Only property that will benefit from the proposed works can be included. The district can be made up of part of a town, the entire town, or parts of two or more towns. If the proposed district includes

^{19/} 1955 Wisconsin Statutes, 60.303 (3).

parts of two or more towns, the town with the largest assessed valuation has jurisdiction in arranging for and in holding the hearings that are required and in determining the need for establishing a district. This town, which might be termed the dominant town, retains that status when the district is organized. This means that the statutes give certain towns extraterritorial powers in connection with town sanitary districts that include parts of two or more towns. These districts can be created "for the purpose of purchasing, establishing, or constructing surface or storm water sewers, drainage improvements, sanitary sewers, or a system or systems of waterworks, sewage, garbage or refuse disposal or all of such improvements or any combination thereof." 20/

Under certain conditions, town boards can acquire powers that are conferred on village boards. These powers include the right to construct sanitary and storm sewers and sewage-disposal plants. Before construction of these works, the town board under this power must hold a public hearing to determine the need for such facilities.

Towns then can attack problems relating to sewage disposal, surface waters, and public water supply by either of two methods. A town sanitary district can be created or the town can exercise powers vested in the village board. Indebtedness incurred to finance the construction of any system must be within the total debt limitations of the town if these facilities are provided by the town. If a sanitary district is created, the district has its own debt limitation, separate and distinct from that of the town. If the sanitary district covers the entire town, the debt limitation of the district will be 5 percent of the equalized assessment, and the debt limitation of the town will be an equal amount. But, if the town provides these facilities, all town indebtedness would have to be within the 5-percent debt limitation of the town. The creation of a sanitary district with boundaries in common with the town doubles the debt capacity of the area.

Thus the towns or the people within given areas have power to act. In extreme situations, the State has power to act.

It was pointed out earlier in discussion of zoning that various people have expressed the view that central sewage-disposal systems will be needed for a large part of southeastern Wisconsin. One of the first steps to be taken is to learn for which areas this is true. For these areas, early action would appear to be called for. Part of the needed action has been indicated, that is, areas that must be served by central sewers before they may be developed for residential use should be designated.

20/ 1955 Wisconsin Statutes, 60.18 (12).

Another desirable action is a study by sanitarians and economists to determine the type of system that will best serve the area. The physical requirements of collecting lines and of treatment plants within the area in which central facilities are required need to be thoroughly examined by sanitarians. Economists working with the sanitarians are in position to examine relative costs of different facilities and means for financing their construction and operation.

Subdivision control. -- The 1955 subdivision-control law requires that any division of land into five or more parcels of not more than 1 1/2 acres each within a 5-year period must be approved. 21/ To be approved, a plat must comply with the provisions of the State subdivision statute, with any municipal, town, or county ordinance, with any master plan or official map, with the rules promulgated by the State Board of Health, and with the rules of the State Highway Commission. The State Board of Health has issued regulations on the minimum size of lot permitted under certain soil-seepage situations when tracts are serviced by individual sewage-disposal systems. 22/ The rules of the State Highway Commission relate largely to the matter of access. 23/ As a condition for approval of a plat, the towns can require that the subdivider make and install certain public improvements. The law provides also that any municipality, town, or county can enact its own subdivision ordinance, which can be more restrictive than the State requirements. Actually, these units can pass an ordinance that applies to any subdivision of land into two or more tracts.

Racine County was the first county to pass a county subdivision ordinance under the 1955 enabling act. This county ordinance 24/ applies to any subdivision into five or more parcels each of 3 acres or less within a 5-year period. By changing the minimum size from 1 1/2 to 3 acres, a larger number of subdivisions will come under the provisions of the ordinance.

One part of the county ordinance that might be subject to court action at some future date is Section 103.7 on school facilities. This section states that:

21/ 1955 Wisconsin Statutes, Chapter 236. In some cases, there is not the right of approval but the right to object.

22/ Wisconsin State Board of Health, Chapter H65, Rules Governing Subdivisions Not Served by Public Sewers, August, 1956.

23/ Wisconsin Administrative Code, Ch. Hy. 33, Rules and Regulations Governing Land Subdivision Plats Abutting State Trunk Highways and Connecting Streets, August 1956.

24/ Ordinance Number 160, Racine County Subdivision Control Ordinance, adopted February 1956.

"The owner or subdivider shall, at the time of submitting a plat for approval, offer proof as to the name of the school district or school districts in which the subdivision is to be located, and shall also present proof that adequate school facilities at grade school level are, or will be, available to provide for the educational needs of the potential number of families that will occupy such subdivision. Such proof shall be evidenced only by a certificate from the school district or school districts that adequate facilities are either presently available or that satisfactory arrangements have been made with the school district to provide the same. "

The rural city of Franklin has a similar statement in its subdivision ordinance but with an additional sentence attached. The Franklin ordinance provides that "Payment of \$500 per home to the school district shall be proof of said satisfactory arrangements." ^{25/} This ordinance was passed in December 1956. During its first 6 months, no subdivision came under its regulations, although the clerk's office reported that several areas had been subdivided. These tracts had been subdivided into lots of more than the 1 1/2 acres minimum. The clerk's office reported also that subdividers had been encouraged to use deed restrictions to restrict the resubdividing of lots into smaller parcels for a period of 20 years.

The subdivision-control statute applies only to a subdivision of land into five or more parcels each of 1 1/2 acres or less within a 5-year period. If the parcels are of 2 acres, for example, this division of land does not come under the provision of the law. But there is nothing to prevent further division of the 2-acre parcel into small tracts.

Why should not any division of land for residential use come under provision of the law? Firmer control of development within areas in which central sewage systems are a necessity could be obtained if a subdivision were redefined to include any division of land. The mapping requirements might well be suspended for any parcel involving, say, 10 acres or more.

School organization. - In Wisconsin in 1952, there were 5,298 school districts, including 82 that were classified as city school systems. ^{26/} In Waukesha County, the educational governmental organization included 4 integrated units, 4 union high schools, ^{27/} 63 multiple-room elementary

^{25/} Ordinance No. 2, Regulating the Division and Platting of Land, City of Franklin, December 1956.

^{26/} U. S. Bureau of the Census, Local Government Structure in the United States, State and Local Government Special Studies No. 34, 1954.

^{27/} This includes two areas that were organized as union high school districts but were without any teaching staff.

school districts, and 34 one-room school districts, or a total of 105 different public educational units in an area of 556 square miles. A town 6 miles square averaged 6 school districts.

With the average size so small, many districts do not have a diversified tax base. In the area in which land use is shifting from agricultural to residential use, school district taxes are borne largely by farming and residential properties. Few of these districts have any sizable amounts of industrial or commercial property to help defray the costs of schools. No doubt many districts have little or no land that would be considered as suitable for industrial or commercial development.

Many farmers believe that an industry or a business within their taxing unit could result in a lower tax rate for them. However, the location of industry or business depends upon many factors that are beyond their control.

Greater diversity of the tax base cannot be gained to any extent by continuing the present small school districts. Diversity can be obtained by expanding the size of school districts so that districts will include areas that have present or potential residential, commercial and industrial uses, as well as agricultural use, until the latter use is replaced by others. This diversification can be obtained by consolidation or alteration of school districts. But to many people, enlargement of districts means that they have less control over the operation of the district.

Larger districts, along with a zoning ordinance that actually provides guidance for the development of land, can make it possible for districts to plan for capital improvements ahead of development instead of having to rely on inadequate facilities until they can afford needed capital improvements. Districts in rural or urban-rural areas cannot plan for capital expansion as can city school systems.

The need for realignment of school district boundaries also arises from highway construction. When a limited access highway bisects a school district, serious consideration should be given to the desirability and feasibility of combining the severed parts with adjoining districts. This is particularly important if the school plant is in one part and the school population is primarily in the other. Intercourse between the two segments is likely to be difficult.

The people of the town have power to create new districts, to alter district boundaries, or even to dissolve districts. Any elector can petition

the town board for a change in the school district boundary, and the board can take action to bring about the proposed change. 28/

Even if school districts were to be consolidated into larger units, there would still be need for an additional type of adjustment. It was mentioned previously that almost 2 years could pass before the occupant of a new residence would contribute to the support of government services. To provide additional revenue to the school district in this interim, an "original occupancy" tax could be tied in with an occupancy permit for all newly constructed residential units. A permit to occupy would be issued upon payment of the tax or fee when the new unit was ready to be occupied. If the income resulting were allocated to the school district, it would provide additional revenue during this critical period.

An original occupancy permit and tax could be administered on a town basis, but this is subject to the possibility of avoidance by moving operations into some nearby town that had no such tax. Administration at the county level, with the towns given power to act if the county does not do so, would be more effective.

Towns. - Many powers that can be used to guide suburban growth have been delegated to towns. Towns can establish land use districts and thereby guide the transition from agricultural to residential and other uses. Yet there have been spasmodic developments practically everywhere. Residences are being constructed in wet areas. In some places, lots are still relatively small; in others, lots are much larger and the cost of providing adequate sewage disposal at some future date will be heavy.

Towns can establish town sanitary districts, or if they have acquired the functions conferred on village boards, they can provide facilities or services similar to those of sanitary districts. Most homes in unincorporated areas, however, have individual private wells and individual sewage-disposal systems. Permeation of large areas by odors from overworked septic tanks is objectionable.

Towns can take action to consolidate school districts, but the pattern of school districts remains almost constant. In at least one instance, however, a district was divided so that the housing development would be entirely within one district and the farmland in the second.

28/ 1955 Wisconsin Statutes, Section 40.30. The town board's action is subject to modification by the State superintendent if any person appeals the order of the town board. Furthermore, if 10 percent or more of the electors at the last gubernatorial election petition for a referendum to consider the town board's order or the order of the State superintendent, the matter is referred to the voters of the area involved.

Towns can take action to regulate the subdivision of lands, but so far as can be determined no towns have taken this step. Subdividing continues with only a limited amount of public control.

Towns have authority to do much about urbanization problems. They can do a great deal to prevent the problems from arising; they can also do much to alleviate problems after they arise. The question arises, however, "Is the town the unit of government that should handle these problems?"

The town government was devised for a rural economy of the 19th century. Is this form of government adequate to handle current situations which arise in an urban-rural community that is in process of shifting from a rural to an urban economy? The people in the rural economy had relatively few demands for services from local government; the people in an urban economy put relatively greater demands on local government for such services as water, sewage disposal, garbage collection, and policing.

This question is being raised by many people in many towns. It was raised in the town of Brookfield and a large part of what was the town of Brookfield is now the city of Brookfield or the village of Elm Grove. It was raised in the town of Mequon, which today is the city of Mequon, even though it does not have the characteristics, other than residential areas, that are usually associated with cities. It has been raised in various other towns - Delafield, Menomonee, and New Berlin, for example.

In some instances, after raising the question, the people have taken action either by incorporating a city or by deciding to remain as a town. There have been indications from various sources that some questions have been raised as to whether the proper action was taken when areas were incorporated. Many persons express the view that the town form of government is not adequate to cope with changing conditions in an urban-rural area; some of them express doubt as to whether the present form of incorporation results in a type of local government that can deal effectively with these conditions. There is need for a thorough reexamination of local governmental structure in order to determine the type of structure that is needed to meet the changing conditions.

The reexamination should not be limited to town governments. School districts, towns, districts, counties, and regional governments all warrant thoughtful consideration in light of current and emerging problems disclosed by this research study.

